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EXAMINER
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HILL, LAURA C

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3761

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/601,771  
Filing Date: June 20, 2003  
Appellant(s): LEMAY ET AL.

**MAILED**  
**FEB 16 2007**  
**Group 3700**

Charles N.J. Ruggiero  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 17 November 2006 appealing from the Office action mailed 20 April 2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

2001/0056253

SUGA

12-2001

3,895,634

BERGER et al.

7-1975

3,765,416	WERNER et al.	10-1973
"Taper" Oxford online dictionary		2-2007

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-6, 8-10, 13-22, 32-61, 63-64 and 66-73 are rejected under 35 U.S.C. 103(a) as being obvious over Suga (US 2001/0056253) in view of Berger et al. (US 3,895,634). Regarding claims 1-6 Suga discloses a tampon applicator comprising a barrel 2 having a tapered insertion end having two petals and a taper ratio of 3-4

[taper projection length = tapered tampon length A = 20-60 mm;

therefore taper ratio= tapered length A/barrel radius D=

= 20/8 to 60/20=3-4 (figure 2, paragraph 0011, lines 9-19).

Suga *does not expressly disclose* a petal thickness. **Berger** discloses a tampon inserter 10 with a front barrel member 14, which tapers at its rear end and having a plurality of triangular segments/petals 30 (column 5, lines 9-11, figure 1). Berger further discloses the cross-sectional thickness of the petals will be at least 0.005 inch and most preferably at least 0.0075 inch that is less than the mean cross-sectional thickness of the cylindrical portion of front barrel member 14 (column 7, lines 19-23). Berger further discloses substantially uniform petal thickness (figures 1 and 4). One would be motivated to modify the petals of Suga with the uniform petal thickness of Berger to

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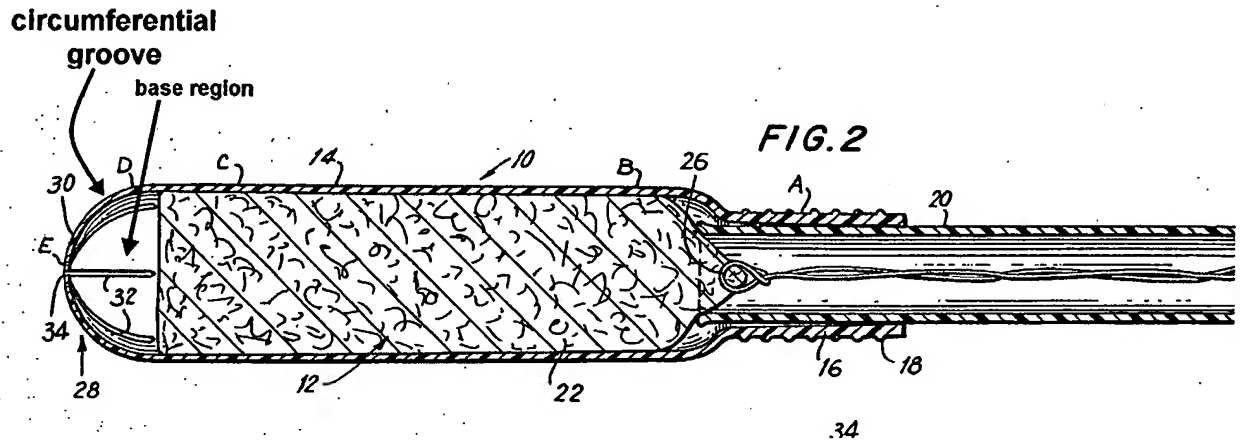
provide an easily-inserted apparatus since both references are in the same field of endeavor; tampon applicators with a tapered barrel and a plurality of petals. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the petals, thus providing the claimed petal thickness.

Alternatively, taper ratio and petal thickness are result effective variables since they are a result of the overall tampon applicator size and the thickness/diameter of the tampon applicator. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify Suga/Berger with taper ratio and petal thickness values, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch and Slaney*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 8-10 Suga/Berger *do not expressly disclose* the petal thickness varies in the claimed values. Petal thickness variation is a well-known result effective variable since it is at least a result of the tampon applicator thickness. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Suga/Berger with petal thickness variation values, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch and Slaney*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 13-22 Berger further discloses a finger grip 16, the area, which contains a plurality of circumferentially, disposed depressed treads/ribs 18 (column 5, lines 9-14; figures 1-2) and a plurality of triangular segments/petals 30 that are

separated by space/radial slit 32 between the segments/petals and extending below a base region, said base region having a circumferential groove on the outer wall (column 5, lines 35-38, figures 1, 2 and 4).



Regarding claim 32 Suga/Berger disclose a tampon applicator with two petals as discussed above with respect to claim 19. Berger et al. further discloses weakened tip/base region 34 that is rounded to reduce the possibility of segments/petals 30 overlapping at their juncture to prevent possible scratching of vaginal tissue during use (column 5, lines 38-41). The method of forming the device (i.e.: 'formed by bending said petals back and forth, thereby breaking one or more bonds') is not germane to the issue of patentability of the device itself. Therefore, this limitation has been given little patentable weight.

Regarding claims 33-36 Berger further discloses the tampon inserter is formed from cardboard or polyolefins such as polyethylene (column 6, lines 36-45).

Regarding claim 37 see the discussion above with respect to claims 1 and 33.

Regarding claims 38-42 see the discussion above with respect to claims 1 and 2-

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Regarding claims 43-50 see the discussion above with respect to claims 1 and 7-14.

Regarding claims 51-60 see the discussion above with respect to claims 1 and 15-24.

Regarding claims 61, 63-64 and 66-73 S see the discussion above with respect to claims 1, 12 and 25-37.

Claims 11-12, 23-31, 62, 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suga (US 2001/0056253) in view of Berger et al. (US 3,895,634) as applied to claim 1, and in further view of Werner et al. (US 3,765,416). Suga/Berger *do not expressly disclose* a ratio of extension, slit to groove ratio, barrel maximum outside diameter values. **Werner** discloses tampon 24 encased in plastic tube/barrel 26 having a tapered insertion end with triangular segments/petals 28 (column 4, lines 39-42, figures 4-5). Werner further discloses a barrel taper ratio of the largest outside barrel radius A to a radius at the base of insertion end B of 1.04 [ $A/B=0.579$  inch/ $0.556$  inch] (column 3, lines 30-34). One would be motivated to modify the barrel of Suga/Berger with the barrel taper ratio of Werner for improved insertion since the references are in the same field of endeavor; disposable tampon applicators with tapered ends and petals. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the barrel and thus providing a barrel taper ratio.

Alternatively, barrel taper ratio, ratio of extension, slit to groove ratio, barrel maximum outside diameter are result effective variables since they are at least a result of the overall applicator barrel size. Therefore, it would be obvious to one of ordinary

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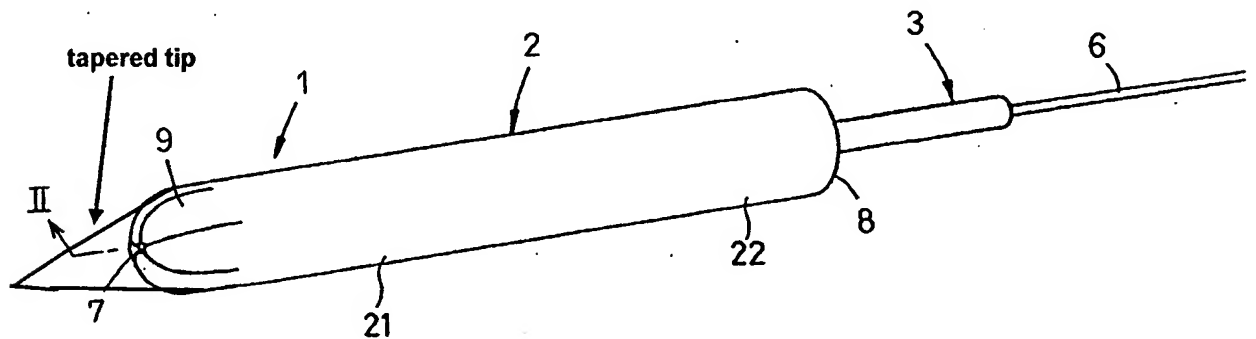
skill in the art at the time the invention was made to It would have been obvious to one having ordinary skill in the art at the time the invention was made to

Suga/Berger/Werner with the aforementioned values, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch and Slaney*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).



**(10) Response to Argument**

In response to Appellant's argument that Suga doesn't disclose a tampon applicator with a tapered insertion tip (see Remarks pages 8-11), Examiner maintains Suga discloses a tapered insertion tip/front end opening 7 since the thickness is reduced towards one end (annotated figure 1). The term "tapered" has been given its broadest reasonable interpretation consistent with the specification to mean a reduction in thickness (see page 2, lines 14-17) where the applicator can be tapered or non-hemispherical. Examiner has not limited the term "tapered" to be only non-hemispherical with the preceding definition.

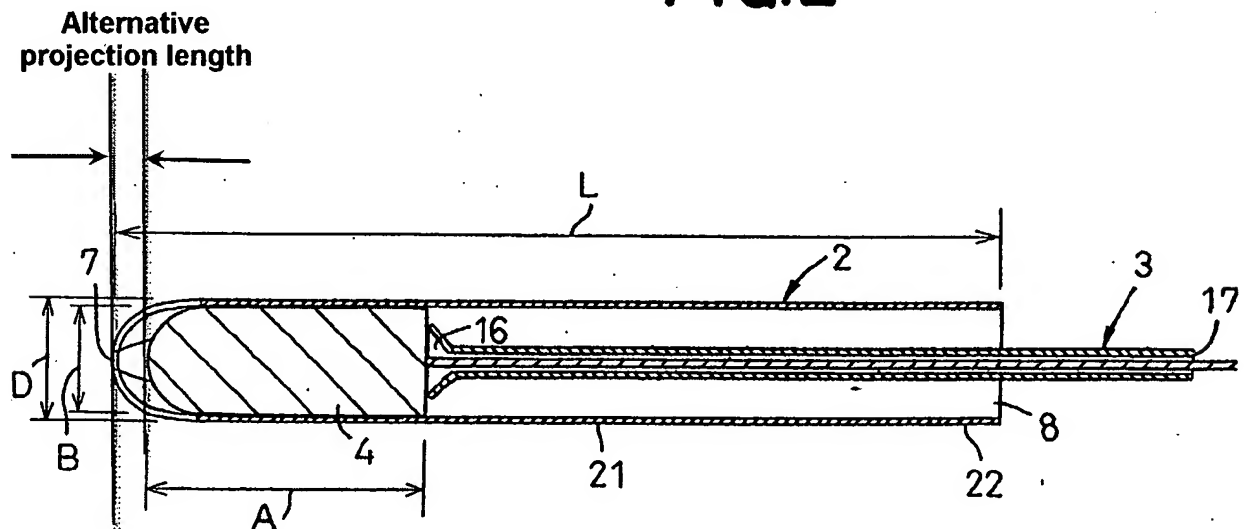
**FIG. I**

In response to Appellant's arguments that 'the taper ratio that is equal to a tapered length A divided by a barrel radius identified by reference letter D of Suga is not equal to a taper ratio that is a length of a projection of the insertion tip taper along a longitudinal axis of the barrel to a length of a projection of the insertion tip taper along a radius of the barrel at a base region of the one or more of petals, as provided in claims

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1 and 37' (see Remarks pages 8-10), Applicant discloses the 'projection length' to be represented by line CD (see page 5, lines 15-19 of the instant Specification). Therefore, the Examiner maintains that tampon length A is equivalent to length of projection of the insertion as discussed on page 3 of the Office action dated 16 November 2005.

Furthermore, assuming *arguendo* that the taper projection length defined by Applicant is not equivalent to the tampon length A of Sugar, the taper ratio will still fall in the range of 'greater than 1 to about 8' as required by Applicant since the 'taper projection length' could also be the distance between the outermost end of the tampon and outermost dome portion adjacent petals 7 as shown in annotated figure 2 below. If the 'taper projection length' was defined as suggested by Applicant, this length would be some value less than the tampon length A and therefore the taper ratio would still fall in the Applicant's claimed range of 'greater than 1 to about 8'.

**FIG.2**

In response to Appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning (see Remarks page 8), it must

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be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to Appellant's arguments that 'Suga merely provides that diameter D is in a range between 8-20 mm and does not disclose or suggest tapering of any kind' (see Remarks page 10), the barrel radius labeled D in Suga is the dimension for the projection portion (see annotated figure 2 above). The rounded tip of Suga is considered "tapered" as discussed above.

In response to Appellant's arguments that Suga and Berger alone or in combination fail to disclose all of the claimed features recited in claim 72 and that there should be a withdrawal of the rejection of all dependent claims (see Remarks pages 11-12), Suga and Berger disclose a tapered applicator barrel as per the discussion above and also see the previous Office action dated 16 November 2005.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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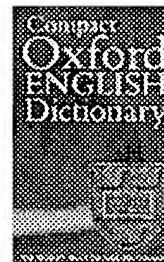
### taper

• **verb** 1 diminish or reduce in thickness towards one end. 2 (taper off) gradually lessen.

• **noun** a slender tapered candle, used for conveying a flame.

— ORIGIN Old English, formed, by alteration of *p-* to *t-*, from Latin *papyrus* 'papyrus plant', the pith of which was used for candle wicks.

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